

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P147852

Luminaire Tested: **TLM-E02-LED-E1-5WQ-7060**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P147852
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33675)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TLM-E02-LED-E1-5WQ-7060
Description: TALON MEDIUM LED SITE LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 5 SQUARE WIDE
Light Source: (42) 5700K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

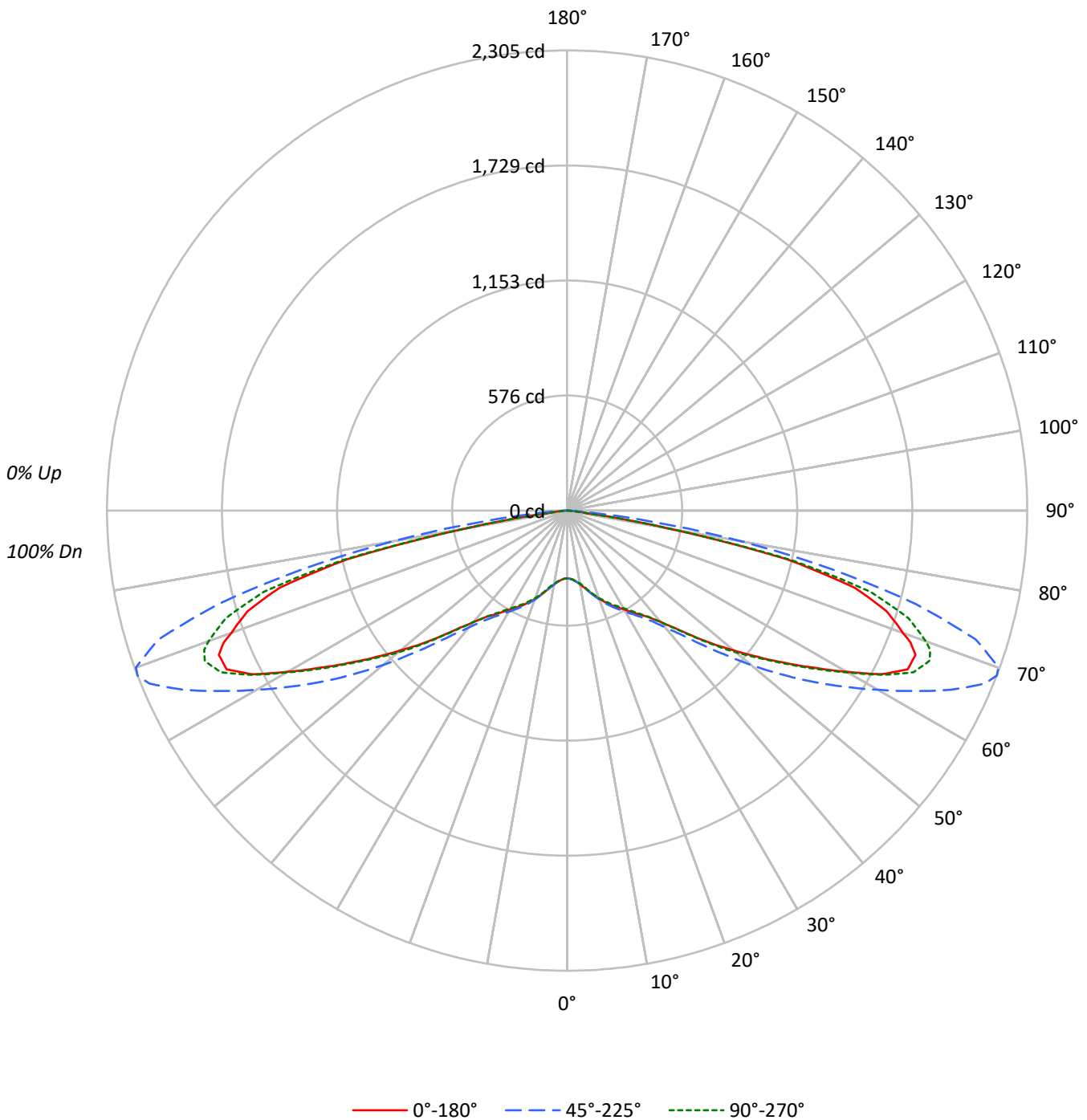
Lumens per Lamp: N/A
Luminaire Lumens: 6533.8 lumens
Efficiency: N/A
Efficacy: 125.4 lumens/watt
Spacing Criteria (0/90/45): 3.9 / 3.92 / 3.98
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 52.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 103 | 96 | 90 | 84 | 100 | 94 | 88 | 82 | 89 | 84 | 80 | 85 | 81 | 77 | 81 | 78 | 75 | 72 |
| 2 | 89 | 77 | 67 | 58 | 86 | 75 | 65 | 58 | 71 | 63 | 56 | 67 | 60 | 55 | 64 | 58 | 53 | 51 |
| 3 | 78 | 63 | 51 | 42 | 75 | 61 | 50 | 42 | 58 | 48 | 41 | 54 | 46 | 40 | 52 | 45 | 39 | 36 |
| 4 | 69 | 52 | 41 | 31 | 66 | 51 | 40 | 31 | 48 | 38 | 31 | 45 | 37 | 30 | 43 | 36 | 29 | 27 |
| 5 | 62 | 45 | 33 | 24 | 59 | 44 | 32 | 24 | 41 | 31 | 24 | 39 | 30 | 23 | 37 | 29 | 23 | 20 |
| 6 | 56 | 39 | 28 | 19 | 54 | 38 | 27 | 19 | 36 | 26 | 19 | 34 | 25 | 19 | 32 | 24 | 18 | 16 |
| 7 | 51 | 34 | 24 | 16 | 49 | 34 | 23 | 16 | 32 | 22 | 16 | 30 | 22 | 15 | 29 | 21 | 15 | 13 |
| 8 | 47 | 31 | 20 | 13 | 45 | 30 | 20 | 13 | 29 | 20 | 13 | 27 | 19 | 13 | 26 | 18 | 13 | 10 |
| 9 | 44 | 28 | 18 | 11 | 42 | 27 | 18 | 11 | 26 | 17 | 11 | 25 | 17 | 11 | 23 | 16 | 11 | 9 |
| 10 | 41 | 25 | 16 | 10 | 39 | 25 | 16 | 10 | 24 | 15 | 10 | 23 | 15 | 10 | 22 | 15 | 10 | 7 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 11067 | 11067 | 11067 |
| 5° | 11424 | 11424 | 11378 |
| 10° | 12440 | 12417 | 12304 |
| 15° | 14115 | 14183 | 13977 |
| 20° | 16335 | 16477 | 16193 |
| 25° | 18808 | 19103 | 18538 |
| 30° | 21540 | 22030 | 21280 |
| 35° | 25333 | 26014 | 25114 |
| 40° | 30964 | 32390 | 30964 |
| 45° | 40898 | 43546 | 41055 |
| 50° | 55296 | 61025 | 56063 |
| 55° | 75583 | 84920 | 76015 |
| 60° | 105317 | 117098 | 105721 |
| 65° | 145246 | 163932 | 147778 |
| 70° | 170662 | 219271 | 182278 |
| 75° | 187766 | 227943 | 198201 |
| 80° | 94953 | 166144 | 97789 |
| 85° | 12275 | 45060 | 9468 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 34.1 | 0.5 |
| 10°-20° | 120.3 | 1.8 |
| 20°-30° | 243.6 | 3.7 |
| 30°-40° | 408.4 | 6.3 |
| 40°-50° | 720.4 | 11.0 |
| 50°-60° | 1270.5 | 19.4 |
| 60°-70° | 1939.6 | 29.7 |
| 70°-80° | 1620.8 | 24.8 |
| 80°-90° | 176.1 | 2.7 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 398.0 | 6.1 |
| 0°-40° | 806.4 | 12.3 |
| 0°-60° | 2797.3 | 42.8 |
| 0°-90° | 6533.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 6533.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 339 | 339 | 339 | 339 | 339 | |
| 5° | 349 | 350 | 349 | 348 | 348 | 34 |
| 15° | 418 | 420 | 420 | 416 | 414 | 120 |
| 25° | 523 | 525 | 531 | 522 | 515 | 243 |
| 35° | 636 | 640 | 653 | 639 | 631 | 404 |
| 45° | 887 | 907 | 944 | 915 | 890 | 697 |
| 55° | 1329 | 1392 | 1493 | 1403 | 1337 | 1204 |
| 65° | 1882 | 1984 | 2124 | 1999 | 1915 | 1801 |
| 75° | 1490 | 1574 | 1809 | 1674 | 1573 | 1435 |
| 85° | 33 | 55 | 120 | 48 | 25 | 108 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P147852

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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 339.3 | 339.3 | 339.3 | 339.3 | 339.3 | 339.3 | 339.3 | 339.3 | 339.3 | 339.3 | 339.3 |
| 2.5° | 342.0 | 342.7 | 342.0 | 342.0 | 342.0 | 342.0 | 342.0 | 341.4 | 341.4 | 341.4 | 342.0 |
| 5° | 348.9 | 349.6 | 348.9 | 349.6 | 349.6 | 349.6 | 349.6 | 348.9 | 348.9 | 348.9 | 348.9 |
| 7.5° | 359.8 | 359.8 | 359.8 | 360.5 | 359.8 | 359.8 | 360.5 | 359.8 | 359.8 | 359.8 | 359.8 |
| 10° | 375.6 | 374.9 | 374.9 | 374.9 | 374.9 | 374.9 | 375.6 | 375.6 | 375.6 | 374.9 | 374.9 |
| 12.5° | 394.7 | 394.0 | 394.7 | 394.7 | 395.4 | 395.4 | 395.4 | 395.4 | 395.4 | 395.4 | 394.7 |
| 15° | 418.0 | 418.0 | 418.0 | 418.7 | 420.0 | 420.0 | 419.3 | 420.0 | 420.0 | 420.0 | 420.0 |
| 17.5° | 444.0 | 445.3 | 444.0 | 444.6 | 445.3 | 444.6 | 446.0 | 446.7 | 447.4 | 446.7 | 444.6 |
| 20° | 470.6 | 471.3 | 471.3 | 471.3 | 471.3 | 472.7 | 473.4 | 473.4 | 475.4 | 474.7 | 474.1 |
| 22.5° | 496.0 | 497.3 | 497.3 | 498.0 | 498.0 | 500.1 | 500.1 | 500.1 | 501.4 | 502.8 | 501.4 |
| 25° | 522.6 | 521.9 | 521.9 | 523.3 | 524.0 | 526.7 | 526.7 | 528.1 | 530.2 | 530.8 | 529.5 |
| 27.5° | 546.6 | 545.9 | 545.9 | 547.9 | 548.6 | 552.0 | 552.0 | 554.8 | 556.1 | 556.8 | 555.5 |
| 30° | 571.9 | 571.9 | 571.2 | 573.3 | 575.3 | 578.0 | 579.4 | 582.1 | 584.2 | 584.9 | 583.5 |
| 32.5° | 602.0 | 600.6 | 601.3 | 602.7 | 604.0 | 606.8 | 608.8 | 612.2 | 615.0 | 615.7 | 614.3 |
| 35° | 636.2 | 634.1 | 634.8 | 636.2 | 638.2 | 642.3 | 645.8 | 647.8 | 651.9 | 653.3 | 650.6 |
| 37.5° | 673.8 | 674.5 | 673.8 | 677.2 | 680.6 | 685.4 | 689.5 | 692.3 | 696.4 | 698.4 | 696.4 |
| 40° | 727.2 | 725.1 | 727.2 | 730.6 | 736.1 | 742.2 | 750.4 | 752.5 | 756.6 | 760.7 | 755.9 |
| 42.5° | 796.3 | 794.9 | 799.7 | 802.4 | 808.6 | 815.4 | 825.7 | 831.1 | 837.3 | 840.0 | 835.9 |
| 45° | 886.6 | 886.6 | 892.0 | 892.7 | 902.3 | 911.2 | 925.5 | 932.4 | 944.0 | 944.0 | 944.0 |
| 47.5° | 986.4 | 990.5 | 994.0 | 1000.8 | 1007.6 | 1024.1 | 1038.4 | 1053.5 | 1064.4 | 1065.8 | 1063.7 |
| 50° | 1089.7 | 1093.8 | 1104.1 | 1113.7 | 1128.7 | 1149.2 | 1165.0 | 1184.8 | 1194.4 | 1202.6 | 1199.9 |
| 52.5° | 1204.0 | 1204.6 | 1217.0 | 1229.3 | 1251.2 | 1273.7 | 1299.0 | 1319.6 | 1336.7 | 1344.2 | 1338.0 |
| 55° | 1329.1 | 1330.5 | 1341.5 | 1354.5 | 1379.1 | 1405.1 | 1436.5 | 1457.8 | 1479.6 | 1493.3 | 1483.1 |
| 57.5° | 1464.6 | 1465.3 | 1476.2 | 1492.0 | 1521.4 | 1547.4 | 1577.5 | 1607.6 | 1628.1 | 1640.4 | 1633.6 |
| 60° | 1614.4 | 1617.8 | 1626.0 | 1645.9 | 1673.9 | 1701.3 | 1731.4 | 1758.1 | 1782.0 | 1795.0 | 1788.2 |
| 62.5° | 1774.5 | 1777.9 | 1789.5 | 1805.3 | 1829.9 | 1860.0 | 1888.7 | 1922.9 | 1942.8 | 1957.1 | 1946.9 |
| 65° | 1881.9 | 1888.0 | 1906.5 | 1927.7 | 1964.0 | 2003.0 | 2036.5 | 2083.0 | 2106.9 | 2124.0 | 2114.5 |
| 67.5° | 1888.7 | 1892.1 | 1914.7 | 1946.9 | 1995.4 | 2054.3 | 2122.7 | 2195.2 | 2242.4 | 2265.0 | 2248.5 |
| 69° | 1842.2 | 1847.0 | 1868.9 | 1905.1 | 1959.2 | 2027.6 | 2109.0 | 2199.3 | 2271.8 | 2305.3 | 2289.6 |
| 70° | 1789.5 | 1799.8 | 1823.7 | 1863.4 | 1916.1 | 1987.9 | 2072.0 | 2168.5 | 2253.3 | 2299.2 | 2287.5 |
| 72.5° | 1678.7 | 1681.4 | 1697.2 | 1728.6 | 1769.0 | 1828.5 | 1907.9 | 1998.9 | 2079.6 | 2145.2 | 2154.8 |
| 75° | 1489.9 | 1498.8 | 1510.4 | 1531.6 | 1552.2 | 1595.3 | 1648.6 | 1710.9 | 1758.1 | 1808.7 | 1810.7 |
| 77.5° | 1126.0 | 1152.7 | 1161.6 | 1166.3 | 1175.2 | 1209.4 | 1256.0 | 1310.0 | 1349.0 | 1357.2 | 1355.8 |
| 80° | 505.5 | 541.1 | 549.3 | 588.3 | 612.2 | 669.0 | 740.2 | 822.9 | 878.3 | 884.5 | 869.5 |
| 82.5° | 99.2 | 106.0 | 123.8 | 154.6 | 210.7 | 244.2 | 290.7 | 348.9 | 402.2 | 433.0 | 414.5 |
| 85° | 32.8 | 34.9 | 40.4 | 44.5 | 51.3 | 58.1 | 70.5 | 87.6 | 108.8 | 120.4 | 107.4 |
| 87.5° | 13.0 | 13.0 | 15.0 | 16.4 | 17.8 | 17.8 | 17.8 | 16.4 | 15.7 | 13.0 | 11.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 339.3 | 339.3 | 339.3 | 339.3 | 339.3 | 339.3 | 339.3 | 339.3 |
| 2.5° | 341.4 | 341.4 | 341.4 | 341.4 | 341.4 | 341.4 | 341.4 | 341.4 |
| 5° | 348.9 | 348.2 | 348.2 | 347.5 | 347.5 | 347.5 | 347.5 | 347.5 |
| 7.5° | 359.1 | 358.5 | 357.8 | 358.5 | 357.8 | 357.8 | 357.8 | 357.8 |
| 10° | 374.9 | 373.5 | 372.8 | 372.1 | 372.1 | 372.1 | 371.5 | 371.5 |
| 12.5° | 393.3 | 393.3 | 392.7 | 392.0 | 390.6 | 391.3 | 390.6 | 389.2 |
| 15° | 418.7 | 417.3 | 416.6 | 415.9 | 414.5 | 414.5 | 414.5 | 413.9 |
| 17.5° | 444.0 | 442.6 | 442.6 | 440.5 | 439.9 | 439.9 | 439.9 | 440.5 |
| 20° | 472.0 | 470.0 | 468.6 | 467.2 | 465.9 | 466.5 | 465.2 | 466.5 |
| 22.5° | 500.1 | 497.3 | 496.0 | 493.9 | 491.8 | 491.8 | 491.2 | 489.8 |
| 25° | 527.4 | 524.0 | 522.6 | 520.6 | 517.8 | 517.8 | 516.5 | 515.1 |
| 27.5° | 553.4 | 550.0 | 548.6 | 544.5 | 541.8 | 541.1 | 539.7 | 539.0 |
| 30° | 582.1 | 578.0 | 576.0 | 571.9 | 567.8 | 567.1 | 565.0 | 565.0 |
| 32.5° | 612.2 | 608.1 | 606.8 | 600.6 | 597.2 | 597.2 | 595.8 | 594.5 |
| 35° | 649.9 | 643.7 | 642.3 | 636.2 | 631.4 | 631.4 | 630.0 | 630.7 |
| 37.5° | 694.3 | 689.5 | 684.8 | 680.0 | 674.5 | 673.8 | 672.4 | 671.1 |
| 40° | 753.8 | 748.4 | 742.9 | 736.1 | 731.3 | 729.9 | 727.9 | 727.2 |
| 42.5° | 833.2 | 827.7 | 816.8 | 811.3 | 806.5 | 802.4 | 801.7 | 801.0 |
| 45° | 934.4 | 927.6 | 920.1 | 909.8 | 903.7 | 894.8 | 893.4 | 890.0 |
| 47.5° | 1056.2 | 1043.2 | 1030.2 | 1021.3 | 1011.7 | 1001.5 | 999.4 | 994.0 |
| 50° | 1185.5 | 1175.2 | 1153.3 | 1139.0 | 1123.9 | 1113.7 | 1106.8 | 1104.8 |
| 52.5° | 1324.4 | 1305.2 | 1283.3 | 1264.2 | 1242.3 | 1228.6 | 1216.3 | 1212.9 |
| 55° | 1469.4 | 1442.0 | 1414.7 | 1392.1 | 1370.2 | 1353.8 | 1342.1 | 1336.7 |
| 57.5° | 1614.4 | 1584.3 | 1554.2 | 1529.6 | 1511.1 | 1489.9 | 1478.3 | 1475.5 |
| 60° | 1765.6 | 1736.9 | 1706.1 | 1681.4 | 1658.9 | 1640.4 | 1633.6 | 1620.6 |
| 62.5° | 1925.7 | 1895.6 | 1866.8 | 1842.9 | 1814.2 | 1801.2 | 1789.5 | 1782.0 |
| 65° | 2083.0 | 2048.1 | 2011.9 | 1986.5 | 1957.8 | 1939.3 | 1925.0 | 1914.7 |
| 67.5° | 2204.8 | 2152.1 | 2103.5 | 2061.1 | 2022.1 | 1993.4 | 1974.9 | 1965.3 |
| 69° | 2239.0 | 2173.3 | 2111.0 | 2055.6 | 2009.8 | 1977.6 | 1957.1 | 1947.5 |
| 70° | 2234.9 | 2162.3 | 2093.9 | 2033.1 | 1983.1 | 1948.9 | 1929.1 | 1911.3 |
| 72.5° | 2108.3 | 2041.9 | 1966.0 | 1899.7 | 1854.5 | 1821.7 | 1801.8 | 1792.3 |
| 75° | 1799.1 | 1754.6 | 1699.9 | 1648.6 | 1615.8 | 1596.6 | 1572.0 | 1572.7 |
| 77.5° | 1310.0 | 1311.4 | 1274.4 | 1221.7 | 1184.8 | 1178.0 | 1167.0 | 1156.1 |
| 80° | 812.7 | 747.7 | 705.3 | 648.5 | 606.8 | 570.5 | 554.8 | 520.6 |
| 82.5° | 374.9 | 292.8 | 227.1 | 171.7 | 132.0 | 103.3 | 90.3 | 73.9 |
| 85° | 83.5 | 63.6 | 52.7 | 42.4 | 36.3 | 33.5 | 27.4 | 25.3 |
| 87.5° | 11.6 | 10.3 | 9.6 | 8.9 | 7.5 | 5.5 | 4.1 | 3.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)